

CC conjugate synergistically boost the magnitude of the host immune response  
CC against an antigen to a level greater than the host immune response to  
CC either the IMM, antigen or ISS-PV alone. These responses to ISS-PV/IMM  
CC conjugates are particularly acute during the important early phase of the  
CC host immune response to an antigen. The ISS-PV/IMM conjugates boost both  
CC humoral (antibody) and cellular (Th1 type) immune responses of the host.  
CC Thus, use of the method to boost the immune responsiveness of a host to  
CC subsequent challenge by a sensitizing antigen without immunisation avoids  
CC the risk of Th2-mediated, immunisation-induced anaplasia by suppressing  
CC IgE production in response to the antigen challenge. The conjugates can  
CC also be used to combat pathogenic infection and to stimulate therapeutic  
CC angiogenesis to treat conditions in which localised blood flow plays a  
CC significant etiological role, e.g. retinopathies

XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 2; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.24;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGACGTCGAGATGA 22  
Db 1 TGACTGTGACGTCGAGATGA 22

RESULT 2.  
AAV80097 standard; DNA, 22 BP.  
XX  
AC AAV80097;  
XX  
DT 12-MAR-1999 (first entry)  
XX  
DE Immunomodulatory oligo comprising an ISS sequence.  
XX  
KW Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;  
KW ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;  
KW human immunodeficiency virus; influenza; herpes; M. tuberculosis; B9;  
KW B. pertussis; malaria; plasmodia; leishmania; Trypanosoma; Schistosoma.  
XX  
OS Synthetic.  
XX  
PN MO9855495-A2.  
XX  
PD 10-DEC-1998.  
XX  
PF 05-JUN-1998; 98WO-US011578.  
XX  
PR 06-JUN-1997; 97US-0048793P.  
XX  
PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
XX  
PI Schwartz D, Roman M, Dina D;  
XX  
DR WPI; 1999-059898/05.  
XX  
PT Immunostimulatory oligonucleotides regulate the immune system - and  
PT contain an immune-stimulating octanucleotide sequence; for treating  
PT cancer, allergic and infectious diseases.  
XX  
PS Claim 5; Page 29; 63pp; English.

XX The invention relates to immunomodulatory oligonucleotides that comprise  
CC at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS  
CC sequences are selected from the group consisting of AACGTTC, AACGTTCG,  
CC GACGTTC, and GACGTTCG. The immunomodulatory sequences are used to treat  
CC patients needing immune regulation, such as those suffering from cancer,  
CC an allergic disease and asthma. They are also used to prevent infectious  
CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency  
CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and  
CC Bordetella pertussis, malarial plasmodia, Leishmania, Trypanosoma and  
CC Schistosoma. The immunomodulatory sequences are used to screen for human  
CC immunostimulatory activity by incubating macrophage cells and the

CC oligonucleotide; and determining the relative amount of Th1-biased  
CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent  
CC specific claimed examples of such immunomodulatory oligonucleotides

XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 2; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.24;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGACGTCGAGATGA 22  
Db 1 TGACTGTGACGTCGAGATGA 22

RESULT 3  
AAV80103 standard; DNA, 22 BP.  
XX  
AC AAV80103;  
XX  
DT 12-MAR-1999 (first entry)  
XX  
DE Immunomodulatory oligo comprising an ISS sequence.  
XX  
KW Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;  
KW ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;  
KW human immunodeficiency virus; influenza; herpes; M. tuberculosis; B9;  
KW B. pertussis; malaria; plasmodia; leishmania; Trypanosoma; Schistosoma.  
XX  
OS Synthetic.  
XX  
FH Key location/Qualifiers  
FH modified\_base 11 /tag= a /note= "5-bromocytosine"  
XX  
FT PN MO9855495-A2.  
XX  
PD 10-DEC-1998.  
XX  
PF 05-JUN-1998; 98WO-US011578.  
XX  
PR 06-JUN-1997; 97US-0048793P.  
XX  
PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.  
XX  
PI Schwartz D, Roman M, Dina D;  
XX  
DR WPI; 1999-059898/05.  
XX  
PT Immunostimulatory oligonucleotides regulate the immune system - and  
PT contain an immune-stimulating octanucleotide sequence; for treating  
PT cancer, allergic and infectious diseases.  
XX  
PS Claim 24; Page 30; 63pp; English.

XX The invention relates to immunomodulatory oligonucleotides that comprise  
CC at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS  
CC sequences are selected from the group consisting of AACGTTC, AACGTTCG,  
CC GACGTTC, and GACGTTCG. The immunomodulatory sequences are used to treat  
CC patients needing immune regulation, such as those suffering from cancer,  
CC an allergic disease and asthma. They are also used to prevent infectious  
CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency  
CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and  
CC Bordetella pertussis, malarial plasmodia, Leishmania, Trypanosoma and  
CC Schistosoma. The immunomodulatory sequences are used to screen for human  
CC immunostimulatory activity by incubating macrophage cells and the  
CC oligonucleotide; and determining the relative amount of Th1-biased  
CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent  
CC specific claimed examples of such immunomodulatory oligonucleotides

XX  
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

FEATURES  
source Location/Qualifiers  
1..22  
/organism="unknown"  
/mol\_type="genomic DNA"

## ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22

RESULT 9  
AR287741  
LOCUS AR287741 22 bp DNA linear PAT 12-JUN-2003  
DEFINITION Sequence 1 from patent US 6534062.  
ACCESSION AR287741  
VERSION AR287741.1 GI:31674761  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unclassified.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz,E., Cho,H.J., Richman,D. and Horner,A.A.  
TITLE Methods for increasing a cytotoxic T lymphocyte response in vivo  
JOURNAL Patent: US 6534062-A 1 18-MAR-2003;  
FEATURES  
source Location/Qualifiers  
1..22  
/organism="unknown"  
/mol\_type="genomic DNA"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22

RESULT 10  
AR287743  
LOCUS AR287743 22 bp DNA linear PAT 12-JUN-2003  
DEFINITION Sequence 3 from patent US 6534062.  
ACCESSION AR287743  
VERSION AR287743.1 GI:31674763  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unclassified.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz,E., Cho,H.J., Richman,D. and Horner,A.A.  
TITLE Methods for increasing a cytotoxic T lymphocyte response in vivo  
JOURNAL Patent: US 6534062-A 3 18-MAR-2003;  
FEATURES  
source Location/Qualifiers  
1..22  
/organism="unknown"  
/mol\_type="genomic DNA"

ORIGIN  
Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22

RESULT 11  
AR308057  
LOCUS AR308057 22 bp DNA linear PAT 12-JUN-2003  
DEFINITION Sequence 1 from patent US 6552006.  
ACCESSION AR308057  
VERSION AR308057.1 GI:31698950  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unclassified.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz,E., Kornbluth,R., Catanzaro,A., Hayashi,T. and Carson,D.  
TITLE Immunomodulatory polynucleotides in treatment of an infection by an intracellular pathogen  
JOURNAL Patent: US 6552006-A 1 22-APR-2003;  
FEATURES  
source Location/Qualifiers  
1..22  
/organism="unknown"  
/mol\_type="genomic DNA"

## ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22

RESULT 12  
AR352573  
LOCUS AR352573 22 bp DNA linear PAT 17-AUG-2003  
DEFINITION Sequence 2 from patent US 6569940.  
ACCESSION AR352573  
VERSION AR352573.1 GI:33757824  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unclassified.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Raz,E., Roman,M. and Dina,D.  
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof  
JOURNAL Patent: US 6569940-A 2 08-JUL-2003;  
FEATURES  
source Location/Qualifiers  
1..22  
/organism="unknown"  
/mol\_type="genomic DNA"

## ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;  
Best Local Similarity 100.0%; Pred. No. 0.47;  
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22  
|||||  
1 TGACTGTGAACGTTGAGATGA 22

RESULT 13  
AR383158  
LOCUS AR383158 22 bp DNA linear PAT 18-DEC-2003  
DEFINITION Sequence 1 from patent US 6610661.  
ACCESSION AR383158  
VERSION AR383158.1 GI:40092605  
KEYWORDS  
SOURCE Unknown.  
ORGANISM Unclassified.  
REFERENCE 1 (bases 1 to 22)  
AUTHORS Carson,D.A., Raz,E. and Roman,M.  
TITLE Immunostimulatory polynucleotide/immunomodulatory molecule

CAFE

# SEARCH REQUEST FORM

Access DB#

148327

Scientific and Technical Information Center

Requester's Full Name: JANE ZARA Examiner #: 77512 Date: 3-21-05  
 Art Unit: 1635 Phone Number: 302-076 Serial Number: 09/202,376  
 Mail Box and Bldg/Room Location: 2028 Results Format Preferred (circle): PAPER DISK E-MAIL  
by 2018 2028

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*  
 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Immunomagic Formulations  
 Inventors (please provide full names): Van Nest et al.

Earliest Priority Filing Date: 3-9-01

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please Search Seq ID No. 1

No size limits

1  
22 NA

Thanks

## STAFF USE ONLY

Searcher: Arnold  
 Searcher Phone #: 2-2532  
 Searcher Location: \_\_\_\_\_  
 Date Searcher Picked Up: 3/21/05  
 Date Completed: 3/29/05

## Type of Search

NA Sequence (#) 1  
 AA Sequence (#) \_\_\_\_\_  
 Structure (#) \_\_\_\_\_  
 Bibliographic \_\_\_\_\_  
 Litigation \_\_\_\_\_

## Vendors and cost where applicable

STN \_\_\_\_\_  
 Dialog \_\_\_\_\_  
 Questel/Orbit \_\_\_\_\_  
 Dr.Link \_\_\_\_\_  
 Lexis/Nexis \_\_\_\_\_